AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) A fuel cell system comprising:

a fuel cell stack comprising a heating element comprising a body of thermally-conductive material having at least one channel, a hydrogen storage medium disposed within said at least one channel, wherein said hydrogen storage medium is capable of absorbing and releasing hydrogen in a reversible reaction and is in particle form; an opening providing access to said at least one channel, and a filter disposed between said opening and said at least one channel, wherein said filter has a pore size that is less than an average particle size of said hydrogen storage medium to prevent said hydrogen storage medium from entering said opening; and

at least one component of said fuel cell stack of the fuel cell system in contact with and heat transfer relationship with said body of the heating element and arranged so that hydrogen supplied to said channel is absorbed by said hydrogen storage medium in an exothermic reaction generating heat which is transferred through said body to said component.

2. (original) The fuel cell system of claim 1, wherein said at least one channel comprises a plurality of flow channels.

3-4. (cancelled).

5. (previously presented) The fuel cell system of claim 1, wherein said component comprises a terminal collector element of a fuel cell, and said terminal collector element includes said heating element.

6. (previously presented) The fuel cell system of claim 1, wherein said component comprises an electrically conductive fluid distribution element in a fuel cell, and said fluid distribution element includes said heating element.

7. (previously presented) The fuel cell system of claim 1, wherein said component comprises adjacent fuel cells and wherein said heating element is disposed between said adjacent fuel cells.

8. (previously presented) The fuel cell system of claim 1, wherein said component comprises a terminal fuel cell and a terminal collector plate of a fuel cell stack, and said heating element is disposed between said terminal fuel cell and said terminal collector plate.

9. (previously presented) The fuel cell system of claim 1, wherein said component comprises a terminal collector plate and an end base plate of a fuel cell stack, and said heating element is disposed between said terminal collector plate and said end base plate.

10. (previously presented) The fuel cell system of claim 1, wherein said component comprises a fuel cell stack and wherein said heating element surrounds at least a portion of said stack.

11. (original) The fuel cell system of claim 1, wherein said body is constructed of a material which is electrically and thermally conductive.

12. (cancelled).

13. (original) The fuel cell system of claim 11, wherein said material is a metal.

14. (original) The fuel cell system of claim 11, wherein said material comprises a metal selected from the group consisting of: aluminum, magnesium, titanium, nickel, stainless steel, and alloys and mixtures thereof.

15. (original) The fuel cell system of claim 11, wherein said material comprises aluminum.

16. (original) The fuel cell system of claim 15, wherein said material comprises at least one selected from the group consisting of: Al and $AlMg_3$.

17. (original) The fuel cell of claim 1, wherein said hydrogen storage medium has an equilibrium pressure for absorption of hydrogen of less than about 30 atm at 25°C.

18. (original) The fuel cell system of claim 1, wherein said hydrogen storage medium has an equilibrium pressure for absorption of hydrogen of less than about 5 atm at 25°C.

19. (original) The fuel cell system of claim 1, herein said hydrogen storage medium has a hydrided state comprising metal hydride and a dehydrided state comprising metal or metal alloy represented by M.

20. (original) The fuel cell system of claim 19 wherein said metal or metal alloy, M, absorbs hydrogen according to the general equation: $M(s)+H_2(g)\longleftrightarrow MH_y(s)$ where M is a solid phase metal alloy, hydrogen is in gaseous form, and MH is a solid phase metal hydride, and y is based on charge balance.

21. (original) The fuel cell system of claim 19, wherein said metal alloy, M, is comprised of a composition having the nominal general formula selected from the group consisting of AB_5 and AB_2.

22. (original) The fuel cell system of claim 21, wherein A is a first metal species selected from the group consisting of: lanthanum (La), neodynium (Nd), cerium

(Ce), praseodymium (Pr), mischmetal (Mm), calcium (Ca), titanium (Ti), and mixtures thereof; and

B is a second metal species comprises a metal selected from the group consisting of: iron (Fe), tin (Sn), nickel (Ni), aluminum (Al), cobalt (Co), manganese (Mn), and mixtures thereof.

23. (original) The heating element according to claim 22, wherein said metal alloy comprises $LaNi_5$.

24-28. (cancelled).

29. (previously presented) A fuel cell system comprising:

a fuel cell stack comprising a heating device comprising a thermally conductive body having a cavity which contains a metal alloy in particle form, wherein said metal alloy when exposed to hydrogen at temperatures below 60°C and below 15 atm absolute reversibly forms a metal hydride and thereby releases heat; an opening providing access to said cavity, and a filter disposed between said opening and said cavity, wherein said filter has a pore size that is less than an average particle size of said metal alloy to prevent said metal alloy from entering said opening, wherein said heating device in contact with and heat transfer relationship with a component of a fuel cell stack of said fuel cell system.

30. (original) The fuel cell system of claim 29 wherein said cavity contains particles of said metal alloy.

31-33. (cancelled).